

5 (Amended) An interworking subsystem for providing interoperation between a digital communication network and a public switched telephone network (PSTN), said interworking subsystem comprising:

an input for receiving a first communication signal from the digital communication network;

a de-vocoder for performing a de-vocoding operation on said first communication signal to generate a first output signal, wherein said first output signal includes a plurality of pulse code modulation (PCM) samples;

A1 a protocol termination unit for performing a protection protocol termination operation on said first communication signal to generate a second output signal, wherein said second output signal includes a stream of digital data bits; and

a signal combiner for combining said first output signal and said second output signal into a composite signal for delivery to a destination user within the PSTN, wherein said signal combiner overlays said stream of digital data bits onto said plurality of PCM samples.

6.5 (Amended) An interworking subsystem for providing interoperation between a digital communication network and a public switched telephone network (PSTN), said interworking subsystem comprising:

an input for receiving a first communication signal from the digital communication network;

a de-vocoder for performing a de-vocoding operation on said first communication signal to generate a first output signal, wherein said first output signal includes a plurality of pulse code modulation (PCM) samples;

A1 a protocol termination unit for performing a protection protocol termination operation on said first communication signal to generate a second output signal, wherein said second output signal includes a stream of digital data bits; and

a signal combiner for combining said first output signal and said second output signal into a composite signal for delivery to a destination user within the PSTN, wherein said signal combiner inserts individual data bits from said stream of digital data bits into predetermined bit positions within the plurality of PCM samples.

10 13. (Amended) A method for providing interoperation between a digital communication network and a public switched telephone network (PSTN), said method comprising:

A2 receiving a system-native digital communication signal from the digital communication network;

processing the system-native digital communication signal using a de-vocoding routine to generate a first intermediate signal, wherein said first intermediate signal includes a plurality of pulse code modulation (PCM) samples;

processing the system-native digital communication signal using a protocol termination routine to generate a second intermediate signal, wherein said second intermediate signal includes a stream of digital data bits; and

combining said first and second intermediate signals into a composite signal for

delivery into the PSTN, wherein said step of combining includes distributing individual bits from said stream of digital data bits into predetermined bit positions within said PCM samples.

11 14. (Amended) A method for providing interoperation between a digital communication network and a public switched telephone network (PSTN), said method comprising:

receiving a system-native digital communication signal from the digital communication network;

A2 processing the system-native digital communication signal using a de-vocoding routine to generate a first intermediate signal, wherein said first intermediate signal includes a plurality of pulse code modulation (PCM) samples;

processing the system-native digital communication signal using a protocol termination routine to generate a second intermediate signal, wherein said second intermediate signal includes a stream of digital data bits; and

combining said first and second intermediate signals into a composite signal for delivery into the PSTN, wherein said step of combining includes inserting successive bits from said stream of digital data bits into least significant bit (LSB) positions of successive PCM samples.

18 19. (Amended) A method for formatting data for delivery through a public switched telephone network (PSTN), comprising:

A3 providing PCM samples, each of said PCM samples having a plurality of bit positions including a least significant bit (LSB) position, wherein said step of providing

PCM samples includes acquiring an analog audio signal and sampling said analog audio signal at a predetermined sampling rate;

providing a stream of user data bits; and

substituting individual user data bits from said stream of user data bits into predetermined bit positions of said PCM samples before delivering said PCM samples through the PSTN.

A3 20. (Amended) A method for formatting data for delivery through a public switched telephone network (PSTN), comprising:

providing PCM samples, each of said PCM samples having a plurality of bit positions including a least significant bit (LSB) position, wherein said step of providing PCM samples includes generating dummy samples including simulated audio information;

providing a stream of user data bits; and

substituting individual user data bits from said stream of user data bits into predetermined bit positions of said PCM samples before delivering said PCM samples through the PSTN.

[Please add the following new claims:

A4 25. 2 The interworking subsystem claimed in claim 5, wherein said de-vocoder and said protocol termination unit each operate upon said first communication signal regardless of a signal type of said first communication signal.

26. 3 The interworking subsystem claimed in claim 5, further comprising:
a second input for receiving a second communication signal from the PSTN;

a signal analyzer for analyzing said second communication signal to determine whether said second communication signal includes digital data;

a data extractor for extracting digital data from said second communication signal when said signal analyzer detects digital data therein; and

a protocol unit for applying a system-native digital protocol associated with the digital communication network to said digital data to generate a protocol protected digital data signal for delivery to a user within the digital communication network.

AC/ 27. The interworking subsystem claimed in claim 26, further comprising a vocoder for performing a vocoding operation on said second communication signal when said signal analyzer does not detect digital data within said second communication signal.

28. The interworking subsystem claimed in claim 6, wherein said de-vocoder and said protocol termination unit each operate upon said first communication signal regardless of a signal type of said first communication signal.

29. The interworking subsystem claimed in claim 6, further comprising:

a second input for receiving a second communication signal from the PSTN;

a signal analyzer for analyzing said second communication signal to determine whether said second communication signal includes digital data;

a data extractor for extracting digital data from said second communication signal when said signal analyzer detects digital data therein; and

a protocol unit for applying a system-native digital protocol associated with the digital communication network to said digital data to generate a protocol protected digital data signal for delivery to a user within the digital communication network.

30. ~~28~~¹³ The interworking subsystem claimed in claim ~~29~~⁸, further comprising a vocoder for performing a vocoding operation on said second communication signal when said signal analyzer does not detect digital data within said second communication signal.

31. ~~13~~¹³ The method claimed in claim ~~19~~¹², wherein said step of substituting includes substituting individual user data bits from said stream of user data bits into the LSB positions of said PCM samples.

32. ~~14~~¹³ The method claimed in claim ~~31~~¹³, wherein said step of substituting includes substituting data bits in a sequential manner.

A4 33. ~~15~~¹² The method claimed in claim ~~19~~¹², wherein said step of providing PCM samples includes receiving a digital communication signal from a digital communication network and processing said digital communication signal using a de-vocoding algorithm.

34. ~~14~~¹² The method claimed in claim ~~19~~¹², wherein said step of providing a stream of data bits includes receiving a digital communication signal from a digital communication network and removing a system-native protection protocol from said digital communication signal.

35. ~~17~~¹² The method claimed in claim ~~19~~¹², wherein said step of providing a stream of data bits includes providing a computer data file having data to be transferred to a remote location and reading said computer data file.

36. ~~18~~¹² A computer readable medium having a program stored thereon for implementing the method claimed in claim ~~19~~¹² when executed within a digital processor.

37. ~~19~~¹² A communication device having a digital processor and a computer readable medium, said computer readable medium having a program stored thereon for implementing the method claimed in claim 19 when executed within said digital processor.